

TUWaterWays

Water News and More from the Tulane Institute on Water Resources Law & Policy
[July 21, 2020](#)

Louisiana's Battered Bivalves

The past two decades have been rough for Louisiana's oyster population. [Production](#) on the state's public oyster grounds in 2019 was 92% below the state's 20-year average, and fell 6 percentage points from 2018 to 2019. In particular, the losses have been blamed on storm surges during Hurricanes Katrina, Rita, and Gustav, which physically ripped up thousands of acres of water bottoms used to grow oysters and pushed excess saltwater into wetlands (oysters thrive in water with between 5 to 15 parts per thousand of salt). Additionally, in an effort to block oil from the 2010 Deepwater Horizon spill entering interior wetlands, state officials turned on existing freshwater diversions all along the Mississippi River, which flooded oyster beds with freshwater that killed oysters. And, [the opening of the Bonnet Carré Spillway](#) six times in the last ten years has inundated oyster beds with freshwater.

In response, the Louisiana Department of Wildlife and Fisheries (LDWF) and the Louisiana Coastal Protection and Restoration Authority (CPRA) have been developing a plan to revive the state's oyster population. With a \$132 million price tag, the plan calls for a variety of recovery options, including aid to private growers; expansion of state oyster seed beds; expansion of alternative oyster aquaculture methods, such as the use of elevated cages; identification and establishment of new public oyster areas, which would take into account the effects of salinity changes caused by new diversions; and the development of freshwater-resistant oysters that could withstand the effects of proposed freshwater and sediment diversions in the [State's Coastal Master Plan](#). For example, the Master Plan includes construction of the Mid-Breton and Mid-Barataria sediment diversions on both banks of the Mississippi Rivers. Those diversions will increase the amount of freshwater that enters wetlands, [including on state owned water bottoms that are home to oyster leases](#). Accordingly, concerns about the health of the oyster population have led some to oppose the diversions, especially the Parishes of Plaquemines and St. Bernard.

Two projects proposed in the plan have drawn objections from CPRA officials, namely a hydrologic restoration of the Mississippi River-Gulf Outlet and a new water control structure at Mardi Gras Pass. Nonetheless, CPRA has endorsed the plan. The plan was presented to the LDWF Oyster Task Force on July 7, 2020, and is still under review, so stay tuned.

Magic Mirror on the Wall, Who is the Smartest Port of All? A Nod to Our Maritime Colleagues.

The **Tulane Institute on Water Resources Law and Policy** is a program of the Tulane University Law School.

The Institute is dedicated to fostering a greater appreciation and understanding of the vital role that water plays in our society and of the importance of the legal and policy framework that shapes the uses and less stewardship of water.

Coming up:

[Webinar: "Every snow often oil, microbes, and sediment get together and sink"](#); July 23

[Louisiana Watershed Initiative Regional Steering Committee Meetings](#); Various Locations, LA; July 23, 27, 28, 29, & 30

[Webinar: "Increasing Resilience of wild and farmed oysters before, during, and after an oil spill"](#); July 27

[Webinar: "America's Water Infrastructure Act \(AWIA\) Risk and Resilience Checklist and Lessons Learned"](#); July 28

[Webinar: "Partnerships to Reduce the Impacts from COVID-19 on the Water Sector"](#); July 28

[Webinar: "Water Reuse for Agriculture Purposes"](#); July 29

[Association of California Water Agencies Virtual Conference: Resiliency Rising](#); July 29-30

[Council on Watershed Management Meeting](#); Baton Rouge, LA; July 30

[Mining the Starry Skies: The Intersection of Environmental Law & Space Law](#); July 30

Water jobs:

[Mississippi River Coordinator](#); National Caucus of Environmental Legislators; D.C.

[Outreach Director](#); Upper Missouri Waterkeeper; Bozeman, MT

[Policy Director](#); Env. & Energy Study Institute; D.C.

[Legislative Associate/ Senior Legislative Associate](#); The Southern Environmental Law Center; D.C.

[Climate Strategy Director](#); League of Conservation Voters; Remote/Home-Based

[Communications Director](#); Izaak Walton League of America; Gaithersburg, MD

[East River Community Resilience Fellow](#); The Nature Conservancy; Green Bay, WI

[Global Center for Species Survival Conservation Coordinator- Freshwater Species and Ecosystems](#); Indianapolis Zoo; Indianapolis, IN

[Communications Manager \(The Water Center\)](#); University of Pennsylvania; Philadelphia, PA

[Water Management Program Coordinator](#); Ellerbe Creek Watershed Association; Durham, NC

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On July 13, Governor John Bel Edwards announced an agreement between the Port of New Orleans, Louisiana Economic Development, and The Water Institute of the Gulf to form a [“smart port initiative”](#) in Louisiana. The Water Institute of the Gulf will guide technical solutions for the project; the Port of New Orleans providing seed funding and serving as the pilot port for the project; and Louisiana Economic Development is pursuing federal infrastructure funding to complete the project. The idea behind the project is to test how traditional “smart city” technologies, such as connected sensors that collect and analyze environmental and traffic data, might be used in a port setting. (Many cities have already installed such technology on publicly owned buildings, roads, and intersections.)

Phase one of the project calls for The Water Institute of the Gulf to install sensors on tugboats and other ships that frequent the Port of New Orleans. These sensors will collect data on the sediment levels in shallow areas of the Mississippi River, and the data will promote safety and assist engineers in deciding when to dredge. Phase two calls for creation of a “unified digital command” by assembling the supply chains of container depots, road transporters, dock terminals, shipping lines, warehouses, and cargo operators on one digital platform. This consolidated supply chain model should reduce shipping times and improve safety through the sharing of real time data. Phase three will see Louisiana build a “Hurricane and Flood Risk Center” at the Water Campus in Baton Rouge to support the Governor’s Office of Homeland Security & Emergency Management, the Louisiana National Guard, and other emergency organizations. The center would collect and model environmental data to predict and prepare for coastal and inland flooding events. (An aside about flooding: a new report from the US Water Alliance titled [“Water Rising: Equitable Approaches to Urban Flooding”](#) provides five priority actions for responding to the growing challenge of urban flooding.) Overall, the smart port project will pave the way for technologically enhanced protection of Louisiana’s commerce and supply chains, rivers, and coastal habitats. Though the initial effort will focus on the Port of New Orleans, the goal is that it will provide a replicable model for other ports in Louisiana and beyond. Who is the smartest port of all? New Orleans!

Go Home, 2020, You’re Drunk

In other data collection news, one surprising effect that the COVID-19 pandemic may have is a reduction in the accuracy of weather forecasting due to a decline in global travel. That is, many planes and ships that traverse the planet with cargo and people are also equipped with sensitive instruments that collect a variety of scientific information about the vessel’s surroundings, such as air or ocean temperatures, wind speeds, and humidity. Scientists regularly use this data for modeling of weather forecasts and climate projections. A [new study](#) published in the journal Geophysical Research Letters, suggests that because of the decline in global air travel associated with the pandemic, the accuracy of global weather forecasts between March and May of this year, i.e. the height of the pandemic across much of the world, has been less accurate compared to forecasts developed during the same months in 2017, 2018 and 2019, as well as with forecasts in February of this year, i.e. just before the pandemic hit. Weather forecasting doesn’t just affect the decision to grab an umbrella on the way out the door. Among other things, farmers also depend on accurate forecasts to protect their crops, and utility companies estimate the amount of power that will be consumed in a given day based on temperature forecasts and need to accurately balance power generated versus power consumed. A [recent survey](#) from the Global Ocean Observing System suggests that a number of ocean-observing programs have also suffered during the pandemic. Ocean observations inform short-term weather forecasts, long-term climate change, marine weather forecasts that ships use to navigate through treacherous waters, and the study of the exchange of carbon dioxide between the ocean and the atmosphere. Clearly this is some very important stuff for which accurate data would be clutch.

“The Land Loss is Coming! The Land Loss is Coming!”

Dr. Sherwood “Woody” Gagliano, who is [revered as the “Paul Revere” of coastal land loss](#), passed away on July 17, 2020. Dr. Gagliano was a geologist, geographer, and archaeologist, who earned the “Paul Revere” moniker because he is credited with being the first modern scientist (in the 1970s) to document and sound the alarm on Louisiana’s rapidly eroding coastline.. This occurred after a 1969 proposal by the state of Texas to divert one-third of the flow of the Mississippi River to Texas and New Mexico to deal with their long-standing water scarcity problems. The Army Corps of Engineers asked for assistance on the issue. In the midst of his research, Dr. Gagliano determined that Louisiana had already lost a dramatic share of its wetlands and was continuing to lose

them at a rate of 16.5 square miles a year. His research documented that the historic land-building power of the Mississippi River had been reversed in the 1930s when control structures began to keep the river in one place and levees were built along its length. Dr. Gagliano's research also indicated that the land loss resulting from the loss of sediment from the river was exacerbated by oil-industry canals that provided shortcuts for salt water to enter and injure freshwater marshes. If that information sounds familiar, that is because it is one of the allegations in [lawsuits brought by several coastal parishes against oil and gas companies](#) seeking relief for the coastal damage that the industry has caused. In light of his research, Dr. Gagliano conceived the idea of mimicking river flooding with strategically designed and located sediment diversions that could build new land. Subsequently, he assisted state officials in developing [Coast 2050](#) in 1998, which was the first comprehensive effort to outline steps towards restoring or saving coastal wetlands, and in the aftermath of Hurricane Katrina, the state's creation of its first formal [Coastal Master Plan in 2007](#). The most recent iteration of the Coastal Master Plan contains such diversion projects. Coming full circle on this newsletter, Dr. Gagliano also developed new ways to create artificial oyster reefs, which are called Reef Blk, to assist in coastal restoration efforts. Without Dr. Gagliano's efforts, Louisiana would be years behind on its coastal restoration efforts and potentially without options for restoration. As CPRA Executive Director Bren Haase explained, "Dr. Gagliano was truly one of the founding fathers of Louisiana's coastal program and his work marked a turning point on how we approach the problem both informed by science and in terms of scale." For his numerous accomplishments and tireless, unrelenting advocacy, Louisiana owes him a debt of gratitude; so, on behalf of the State, thank you and rest in peace, good sir.